



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,031	09/23/2003	Masaya Okita	Soyu C-6B	1821
23474 7590 05/27/2009 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER				
PIZIALI, JEFFREY J				
ART UNIT		PAPER NUMBER		
2629				
MAIL DATE		DELIVERY MODE		
05/27/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/669,031

Applicant(s)

OKITA, MASAYA

Examiner

Jeff Piziali

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2009 and 04 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 4, 7, 10, 15 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 4, 7, 10, 15 and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/115,018.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draft Person's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Appeal Brief

1. In view of the Appeal Brief filed on *13 January 2009*, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below. Applicant's submission filed on *4 June 2008* has been entered.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. *09/115,018*, filed on *14 July 1998*.

Oath/Declaration

3. The 'Response' submitted *12 December 2005* amends paragraph [0001] of the instant specification to state that the instant application is a ***continuation-in-part*** (*rather than a continuation*) of *Application No. 09/801,098*.

A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

Claim Objections

4. Claim 10 is objected to due to the term "***substantially black***" (*in line 4*) being a relative term which renders the claim unclear.

The term "***substantially black***" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

It would be unclear to one having ordinary skill in the art how close to black the panel would need to be before it would qualify as "***substantially black***." Would any shade of gray constitute "***substantially black***"?

If the limitation is intended to refer to darkening the panel to a black state, the examiner suggests amending the term to: "***black***."

Appropriate correction is required.

5. Claims 20, 23, and 26 are objected to due to an omitted structural cooperative relationship resulting from the claimed subject matter: "*a nematic liquid crystal*" (in lines 2, 3, 6).

It would be unclear to one having ordinary skill in the art whether each "*a nematic liquid crystal*" limitation is intended to be identical to, or distinct from, one another.

If the limitations are intended to be identical to each other, the examiner suggests amending all limitations subsequent to the first one to: "*the nematic liquid crystal*."

Appropriate correction is required.

6. Claims 20, 22, 23, and 26 are objected to due to an omitted structural cooperative relationship resulting from the claimed subject matter: "*image data*" (in claim 20, lines 8, 12, 18, 19; claim 22, lines 5, 9; claim 23, lines 7, 11; and claim 26, lines 8, 12, and 19).

It would be unclear to one having ordinary skill in the art whether each "*image data*" limitation is intended to be identical to, or distinct from, one another.

If the limitations are intended to be identical to each other, the examiner suggests amending all limitations subsequent to the first one to: "*the image data*."

Appropriate correction is required.

7. Claims 20, 22, 23, and 26 are objected to due to each providing for "*using a nematic liquid crystal*" (in claims 20, 23, & 26, line 6; and claim 22, line 3).

Since the claims do not set forth any steps involved in the respective method/process, it is unclear what method/process applicant is intending to encompass in each instance.

The examiner suggests amending the claims to recite active, positive steps delimiting how the use is actually practiced.

Appropriate correction is required.

8. Claim 22 is objected to where it specifies "***a predetermined potential***" (in line 8), and claim 23 is objected to where it specifies "***a second separate predetermined time period***" (in line 11), since "***predetermined***," according to applicant's definition, merely means "***determined beforehand***."

For example, see *Joseph E. Seagram & Sons, Inc. V. Marzall*, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

The examiner suggests clarifying at what precise point in time the potential is "***determined***" prior to, as well as defining what claim element is performing the "***determination***."

Appropriate correction is required.

9. Claim 26 is objected to due to an omitted structural cooperative relationship resulting from the claimed subject matter: "***an initial level***" (in claim 26, lines 16 and 19).

It would be unclear to one having ordinary skill in the art whether each "***an initial level***" limitation (in lines 16 and 19) is intended to be identical to, or distinct from, one another.

If the limitations are intended to be identical to each other, the examiner suggests amending all limitations subsequent to the first one to: "***the initial level***."

Appropriate correction is required.

10. Claim 27 is objected to due to reciting the limitation "*on image*" (in line 3).

It would be unclear to one having ordinary skill in the art whether this "*on image*" (in claim 27, line 3) is intended to refer to one or more of the earlier claimed, "*image data*" limitations (in claim 26, lines 8, 12, and 19).

If the limitations are intended to be identical to each other, the examiner suggests amending all limitations subsequent to the first one to: "*the image data*."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 3, 4, 7, 10, 15, 20, 21, 23-32, 34, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claims 20, 23, and 26 each recite the limitation "*the liquid crystal*" (in claim 20, line 9; claim 23, lines 8, 11, and 15; and claim 26, lines 9 and 12). There is insufficient antecedent basis for the limitation in the claims.

It is not clear from the claim what "*the liquid crystal*" is intended to refer to: The "*matrix liquid crystal panel*" (in line 5) or the "*nematic liquid crystal*" (in lines 2, 3, 6)?

14. Claim 28 recites the limitation "**the image**" (*in line 2*). There is insufficient antecedent basis for this limitation in the claim.

It would be unclear to one having ordinary skill in the art whether "**the image**" (*in claim 28, line 2*) is intended to refer to one or more of the earlier claimed, "**image data**" limitations (*in claim 26, lines 8, 12, and 19*).

15. The remaining dependent claims 3, 4, 7, 10, 15, 21, 24, 25, 27, 29-32, 34, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 15, 22-24, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Koden (US 5,323,172 A)**.

Regarding claim 15, **Koden** discloses the unit period is less than or equal to eight milliseconds [200 μ sec] (*Column 2, Lines 49 - Column 3, Line 9*).

Regarding claim 22, **Koden** discloses an image display method [*Fig. 5*] for a liquid crystal display device [*Fig. 3*] including

a matrix liquid crystal panel (*Column 2, Lines 25-37*) using a liquid crystal [*Fig. 3: LC*] (*Column 1, Line 21 and Column 2, Lines 25-37*), consisting of the steps of:

applying a first absolute voltage [*Fig. 5: "voltage applied to liquid crystal" = absolute value of 5 volts*] corresponding to image data to the liquid crystal during a first time period [*Fig. 5: t_0*] in a unit period [*Fig. 5: time period from a first gate electrode pulse start/rise to the next gate electrode pulse start/rise*]; and

applying a second absolute voltage having a predetermined potential [*Fig. 5: "voltage applied to liquid crystal" = absolute value of 0 volts*] and that does not correspond to image data to the liquid crystal in a second time period [*Fig. 5: time period from the first gate electrode pulse end/fall to the next gate electrode pulse start/rise*] different from the first time period in the unit period (*Column 2, Lines 49 - Column 3, Line 9*), wherein

the matrix liquid crystal panel is an active matrix liquid crystal panel (*Column 2, Lines 20-23*).

Although **Koden** teaches applying the driving method shown in Figure 5 to a ferroelectric liquid crystal (*Column 2, Line 55*), **Koden** also teaches that a twisted nematic liquid crystal can be substituted in the place of a ferroelectric liquid crystal (*Column 1, Lines 13-42 and Column 13, Lines 38-59*).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to apply the driving method shown in Figure 5 to a twisted nematic liquid crystal, so as to result in a display device of high quality [**Koden: Column 1, Lines 13-23**]. Additionally, it would have been obvious because the substitution of one known liquid crystal material for

another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 23, this claim is rejected by the reasoning applied in rejecting claim 22; furthermore, **Koden** discloses a method [Fig. 5] for driving a liquid crystal [Fig. 3: LC] in a liquid crystal display device [Fig. 3] that includes a liquid crystal (Column 1, Line 21 and Column 2, Lines 25-37),

two electrodes [Fig. 3: 8, 11] confining the liquid crystal [Fig. 10: 13],
a pair of polarizing plates sandwiching the electrodes and a matrix liquid crystal panel using a liquid crystal (Column 2, Lines 9-20; Column 4, Lines 3-25), consisting of the steps of:
applying a first absolute voltage [Fig. 5: "voltage applied to liquid crystal" = absolute value of 5 volts] corresponding to image data to the liquid crystal during a first time period [Fig. 5: t_0] in a unit period [Fig. 5: time period from a first gate electrode pulse start/rise to the next gate electrode pulse start/rise]; and

applying a second absolute voltage [Fig. 5: "voltage applied to liquid crystal" = absolute value of 0 volts] not corresponding to image data to the liquid crystal during a second separate predetermined time period [Fig. 5: time period from the first gate electrode pulse end/fall to the next gate electrode pulse start/rise] in the unit period (Column 2, Lines 49 - Column 3, Line 9), wherein

the unit period includes a separate first input [Fig. 5: "voltage applied to liquid crystal" during t_0] of the first absolute voltage,

a second input [Fig. 5: "voltage applied to liquid crystal" outside t_0] of the second absolute voltage and

the optical transmittance [Fig. 5: "amount of transmitted light"] of the liquid crystal returns to or remains at an original level during the unit period and

the matrix liquid crystal panel is an active matrix liquid crystal panel (Column 2, Lines 20-23).

Regarding claim 24, **Koden** discloses the first absolute voltage consists of a first positive voltage [Fig. 5: +5 volts during the first $1/3t_0$] and a first negative voltage [Fig. 5: -5 volts during the second $1/3t_0$] and

the sum of the first positive voltage and the first negative voltage in the unit period is zero volts (Column 2, Lines 49 - Column 3, Line 9).

Regarding claim 33, **Koden** discloses said nematic liquid crystal is a twisted nematic liquid crystal (Column 1, Line 21 and Column 2, Lines 25-37).

Regarding claim 34, this claim is rejected by the reasoning applied in rejecting claim 33.

18. Claims 3, 4, 7, 10, 20, 21, 25-32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Koden** (US 5,323,172 A) in view of **Handschy et al** (US 5,748,164 A).

Regarding claim 3, **Handschy** discloses the second voltage [0 volts] applied in the second time period [Fig. 8: SB] of the unit period [Fig. 8: SI + SB] erases an image [Fig. 8: Pixel State = OFF = dark] on the panel during the second time period [Fig. 8: SI + SB] (Column 15, Lines 8-58).

Regarding claim 4, **Handschy** discloses erasure of the image displayed on the panel is effected by driving the liquid crystal to display black [Fig. 8: Pixel State = OFF = black] on the panel (Column 15, Lines 8-58).

Regarding claim 7, **Koden** discloses the liquid crystal display device is normally black and the second voltage is zero volts (Column 2, Lines 49 - Column 3, Line 9).

Handschy also discloses the liquid crystal display device is normally black and the second voltage is zero volts (Column 9, Lines 36-67).

Regarding claim 10, **Handschy** discloses the voltage [0 volts] applied in the second time period [Fig. 8: SB] of the unit period [Fig. 8: SI + SB] erases an image on the panel by darkening the TFT liquid crystal panel to substantially black [Fig. 8: Pixel State = OFF = dark = black] during the second time period (Column 15, Lines 8-58).

Regarding claim 20, this claim is rejected by the reasoning applied in rejecting claims 22 and 23; furthermore, **Koden** discloses a method [Fig. 5] for driving a liquid crystal [Fig. 3: LC] in a liquid crystal display device [Fig. 3] comprising

a liquid crystal (*Column 1, Line 21 and Column 2, Lines 25-37*),
two electrodes [*Fig. 3: 8, 11*] sandwiching the liquid crystal [*Fig. 10: 13*],
two polarizing plates sandwiching the two electrodes (*Column 2, Lines 9-20; Column 4, Lines 3-25*) and

a matrix liquid crystal panel [*Fig. 3*] using a liquid crystal, consisting of the steps of:
applying a first voltage [*Fig. 5: "voltage applied to liquid crystal" = absolute value of 5 volts*] corresponding to image data to the liquid crystal during a first time period [*Fig. 5: t_0*] in a unit period [*Fig. 5: time period from a first gate electrode pulse start/rise to the next gate electrode pulse start/rise*]; and

applying a second voltage [*Fig. 5: "voltage applied to liquid crystal" = absolute value of 0 volts*] that does not correspond to image data to the liquid crystal during a second time period [*Fig. 5: time period from the first gate electrode pulse end/fall to the next gate electrode pulse start/rise*] in the unit period, wherein

the unit period consists of the first time period and the second time period, and
the optical transmittance [*Fig. 5: "amount of transmitted light"*] of the liquid crystal changes from an initial level [*Fig. 5: "amount of transmitted light" starts low, prior to t_0*] corresponding to the second voltage to a level [*Fig. 5: "amount of transmitted light" goes high responsive to the "voltage applied to liquid crystal" pulse during t_0*] corresponding to image data during the first time period (*Column 2, Lines 49 - Column 3, Line 9*) and

the matrix liquid crystal panel is an active matrix liquid crystal panel (*Column 2, Lines 20-23*).

Koden neglects to expressly disclose changing from the level corresponding to image data to the initial level corresponding to the second voltage during the second time period.

Such a light transmission response is likely due to **Koden's** use of ferroelectric liquid crystal (*Column 2, Line 55*) -- which exhibits a "memory effect" (*Column 2, Line 2*).

Substituting **Koden's** twisted nematic liquid crystal in the place of ferroelectric liquid crystal (*Column 1, Lines 13-42 and Column 13, Lines 38-59*), should result in the amount of transmitted light changing back to the initial level after the "voltage applied to liquid crystal" pulse resets to zero volts [*Fig. 5: when period t_0 ends*].

However, should it be shown that **Koden** teaches such an optical transmittance response with insufficient specificity:

Handschy discloses a method for driving a nematic liquid crystal (*Column 18, Lines 36-44*) in a liquid crystal display device [*Fig. 4*] comprising

applying a first voltage [*5 volts*] (*Column 9, Lines 36-67*) corresponding to image data to the liquid crystal during a first time period [*Fig. 8: SI*] in a unit period [*Fig. 8: $SI + SB$*]; and

applying a second voltage [*0 volts*] that does not correspond to image data to the liquid crystal during a second time period [*Fig. 8: SB*] in the unit period, wherein

the unit period consists of the first time period and the second time period [*Fig. 8: $SI + SB$*], and

the optical transmittance of the nematic liquid crystal changes from an initial level [*Fig. 8: Pixel State = OFF = dark*] corresponding to the second voltage to a level [*Fig. 8: Pixel State = ON = bright*] corresponding to image data during the first time period and

changes from the level [Fig. 8: *Pixel State* = *ON* = *bright*] corresponding to image data to the initial level [Fig. 8: *Pixel State* = *OFF* = *dark*] corresponding to the second voltage during the second time period (Column 15, Lines 8-58), and

the matrix liquid crystal panel is an active matrix liquid crystal panel [Fig. 4] (Column 8, Line 61 - Column 9, Line 23).

Koden and **Handschy** are analogous art, because they are from the shared inventive field of driving methods applicable to both ferroelectric liquid crystal and twisted nematic liquid crystal displays (**Koden**: Column 1, Lines 13-42 and Column 13, Lines 38-59 & **Handschy**: Column 18, Lines 36-44).

Therefore, it would have been obvious to one having ordinary skill in the art to use **Handschy's** blackout technique between **Koden's** voltage pulse applications to the gate/source electrodes, so as to maintain proper brightness levels during image display (**Handschy**: Column 15, Lines 30-58).

Regarding claim 21, **Koden** discloses the liquid crystal display device is a TFT liquid crystal display device (Fig. 3; Column 2, Lines 25-37).

Regarding claim 25, **Koden** discloses the level corresponding to the second voltage is white [Fig. 5: "*amount of transmitted light*" = *high* = *white*] or black [Fig. 5: "*amount of transmitted light*" = *low* = *black*] (Column 2, Lines 49 - Column 3, Line 9).

Regarding claim 26, this claim is rejected by the reasoning applied in rejecting claims 20 and 22-24; furthermore, **Koden** discloses a method [Fig. 5] for driving a liquid crystal [Fig. 3:

LC] in a liquid crystal display device [Fig. 3] comprising

a liquid crystal (Column 1, Line 21 and Column 2, Lines 25-37),

two electrodes [Fig. 3: 8, 11] sandwiching the liquid crystal [Fig. 10: 13],

two polarizing plates sandwiching the two electrodes (Column 2, Lines 9-20; Column 4, Lines 3-25) and

a matrix liquid crystal panel [Fig. 3] using a liquid crystal, consisting of the steps of:

applying a first absolute voltage [Fig. 5: "voltage applied to liquid crystal" = absolute value of 5 volts] corresponding to image data to the liquid crystal during a first time period [Fig. 5: t_0] in a unit period [Fig. 5: time period from a first gate electrode pulse start/rise to the next gate electrode pulse start/rise]; and

applying a second absolute voltage [Fig. 5: "voltage applied to liquid crystal" = absolute value of 0 volts] that does not correspond to image data to the liquid crystal during a second time period [Fig. 5: time period from the first gate electrode pulse end/fall to the next gate electrode pulse start/rise] in the unit period, wherein

the unit period consists of the first time period and the second time period, and

the optical transmittance [Fig. 5: "amount of transmitted light"] of the liquid crystal changes from an initial level [Fig. 5: "amount of transmitted light" starts low, prior to t_0] corresponding to the second absolute voltage to a level [Fig. 5: "amount of transmitted light" goes high responsive to the "voltage applied to liquid crystal" pulse during t_0] corresponding to image data during the first time period and

the first absolute voltage consists of a first positive voltage [*Fig. 5: +5 volts during the first $1/3t_0$*] and a first negative voltage [*Fig. 5: -5 volts during the second $1/3t_0$*],

the sum of the first positive voltage and the first negative voltage is zero volts in the unit period (*Column 2, Lines 49 - Column 3, Line 9*), and

the matrix liquid crystal panel is an active matrix liquid crystal panel (*Column 2, Lines 20-23*).

Regarding claim 27, this claim is rejected by the reasoning applied in rejecting claim 3.

Regarding claim 28, this claim is rejected by the reasoning applied in rejecting claim 4.

Regarding claim 29, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 30, *Koden* discloses the liquid crystal display device is a TFT liquid crystal display device including a plurality of pixels (*Fig. 3; Column 2, Lines 25-37*).

Regarding claim 31, this claim is rejected by the reasoning applied in rejecting claim 25.

Regarding claim 32, this claim is rejected by the reasoning applied in rejecting claim 33.

Regarding claim 35, this claim is rejected by the reasoning applied in rejecting claim 33.

Response to Arguments

19. Applicant's arguments filed 13 January 2009 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 3, 4, 7, 10, 15, and 20-35 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents listed on the attached '*Notice of References Cited*' are cited to further evidence the state of the art pertaining to driving nematic liquid crystals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571)272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
15 May 2009

/Chanh Nguyen/
Supervisory Patent Examiner, Art Unit
2629